STD and HIV Coinfection

Updated November 2011

Sexually transmitted diseases (STDs) remain a major public health challenge in the United States. According to the Centers for Disease Control and Prevention (CDC), individuals infected with STDs are at least 2 to 5 times more likely to acquire HIV than uninfected persons. There is substantial biological evidence showing that those with STDs - such as syphilis, herpes, chlamydia, gonorrhea, and trichomoniasis - are more likely to both acquire and to transmit HIV due to increased susceptibility and increased infectiousness (CDC, 2010a).

Unlike HIV, many STDs are curable, and the evidence is strong that early detection and treatment of other STDs is an effective strategy for prevention of sexually transmitted HIV (CDC, 1998). In addition, STD trends and STD surveillance data can be helpful in identifying where the HIV epidemic may grow and where HIV rates are likely to increase, thus it is important to better link HIV and STD prevention efforts to control both epidemics (CDC, 2010a).

Preventing STD and HIV Coinfection*

- Early detection and treatment of curable STDs should become a major and explicit component of comprehensive HIV prevention programs at national, state, and local levels.
- Screening and treatment programs should be expanded in areas where STDs that facilitate HIV transmission are prevalent.
- HIV testing should always be recommended for individuals diagnosed with or suspected to have an STD
- HIV and STD prevention programs in the US, together with private and public sector partners, should take joint responsibility for implementation of these strategies.

*Recommendations put forth by the CDC/HRSA Advisory Committee on HIV/AIDS and STD Prevention (CDC, 1998)

STDS AND SPECIAL POPULATIONS

Women

Women and infants are disproportionately affected by long-term consequences of STDs. Women with chlamydia or gonorrhea can develop pelvic inflammatory disease, which can lead to infertility and other reproductive issues (CDC, 2010b). Pregnant women can transmit STDs to their unborn child, thus all pregnant women should be screened for HIV, syphilis, chlamydia, and hepatitis B. Those at risk for gonorrhea and hepatitis C should also be tested (CDC, 2011).

MSM

Surveillance data suggests some STDs in men who have sex with men (MSM) have been increasing since the mid-1990's. Because STDs and associated behavior also increase the likelihood of acquiring or transmitting HIV, the rise in STDs among this population may be associated with an increase in HIV disease diagnoses among MSM. In 2009, 30-74% of MSM who visited STD clinics with primary and secondary (P&S) syphilis were also infected with HIV (CDC, 2010b). It is recommended that MSM regularly undergo screening tests for HIV and STDs to ensure early treatment (CDC, 2011).

Adolescents

Prevalence rates of many sexually acquired infections are highest among adolescents and young adults (aged 15-24) due to a combination of social and biological factors. Young people in this age group represent only 25% of the sexually active population, but it is estimated that they acquire nearly half of all new STDs (CDC, 2010b). Other contributors for higher risk for STDs among youth include residing in detention facilities, using injection drugs, initiating sex early in adolescence, and male to male sexual contact (CDC, 2011).

Other populations with high risks of acquiring STDs include persons in correctional facilities and women who have sex with women.

STD SIGNS, SYMPTOMS AND TRENDS

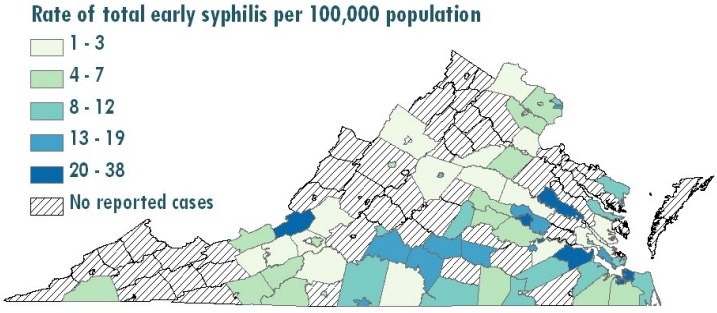
Syphilis

Syphilis is primarily transmitted through sexual contact but can also be transmitted from mother to baby during pregnancy or at birth, referred to as congenital syphilis. Syphilis infection is effectively treated with antibiotics and consists of four stages: primary, secondary, latent and late. Signs and symptoms vary depending on the stage. Left untreated a person can progress to the final late stage of syphilis which can result in serious damage to internal organs, including the central nervous system which can be fatal.

In recent years there has been an increase in syphilis cases nationwide. Much of this increase is attributed to the rise in infection among the MSM population . Nationally, the estimated proportion of P&S syphilis cases attributable to MSM increased from 7% in 2000 to 64% in 2004. HIV co-infection also poses a major health problem among this population (CDC, 2010c). In 2009, the proportion of MSM who were tested positive with P&S syphilis infection and were also infected with HIV disease ranged from 30% in Birmingham to 74% in Baltimore (CDC, 2010b).

In Virginia, 320 cases of total early syphilis (or TES, which includes the primary, secondary, and early latent stages) were diagnosed in 2005 and increased to 548 in 2009. The overall increase of 71% during this five year period is evidence of an increased burden within the MSM population. In 2005-2009, about 72% of male cases of TES were among MSM. In 2009, the incidence rate of TES among males of was 6.8 times that of females, further evidence of an epidemic among MSM.

Rate of TES Diagnoses in Virginia, 2009



Chlamydia

Chlamydia is a common sexually transmitted disease which frequently does not have any symptoms. Screening is essential in diagnosing chlamydial infection because asymptomatic untreated infection can result in pelvic inflammatory disease causing chronic pelvic pain, infertility and potentially fatal ectopic pregnancy (pregnancy outside the uterus). Though less common, complications of chlamydia among men can rarely cause sterility.

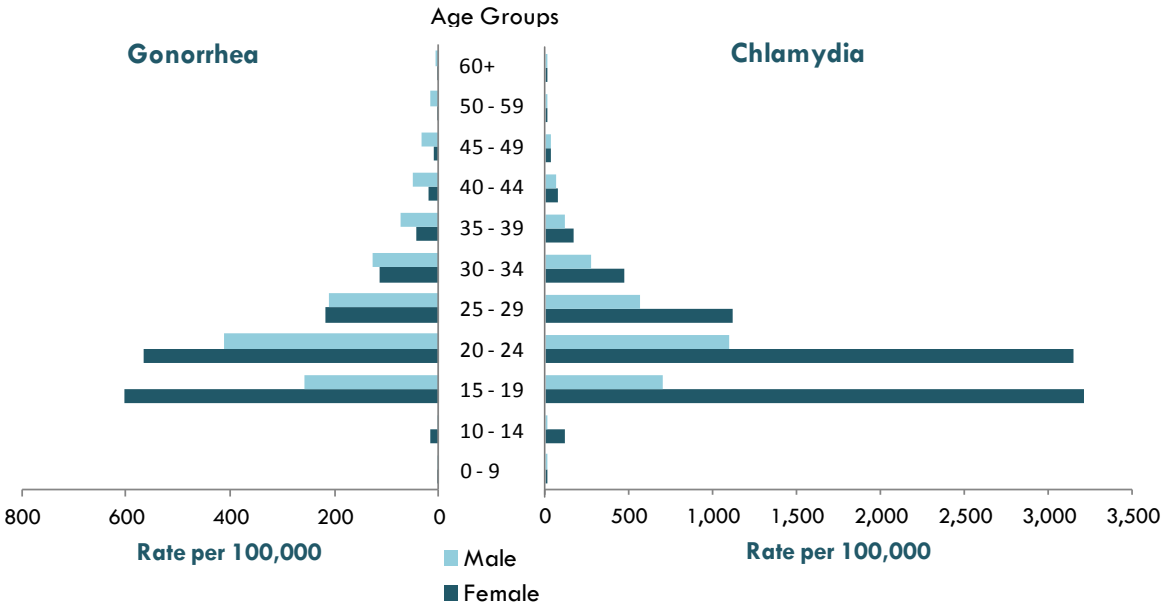
Chlamydia is the most frequently reported bacterial disease in the US. In 2009, Virginia ranked 25 among states for total morbidity and reported a slightly lower rate of disease than the nation as a whole (Virginia 398 per 100,000; US 409). A total of 1,244,180 cases of chlamydia infections were reported to the CDC in 2009, a 2.8% increase compared to the 2008 rate. A great disparity exists among those diagnosed with chlamydial infection: the rate among women (592 per 100,000) was almost three times that of men (219 per 100,000); the rate in Black women was nearly eight times higher than that of White women, and Black men were almost 12 times more likely to be diagnosed than their White counterparts (CDC, 2010b).

Trends in Virginia were similar. In 2009, 31,213 chlamydia cases were diagnosed, indicative of a 38% increase since 2005. Due in large part to screening programs targeted toward women, women (568 per 100,000) were diagnosed at a rate almost three times greater than men (217 per 100,000). Young adults ages 20-24 and adolescents ages 15-19 led in new diagnoses with a rate of 2,081 and 1,935 per 100,000, respectively. Infections among Black individuals outnumber those among White individuals over nine to one (967 and 103 per 100,000, respectively).

Gonorrhea

Gonorrhea is the second most commonly reported notifiable disease in the US, after chlamydia. The national gonorrhea rate declined dramatically after

Rate of Chlamydia and Gonorrhea Diagnoses by Age and Gender in Virginia, 2009

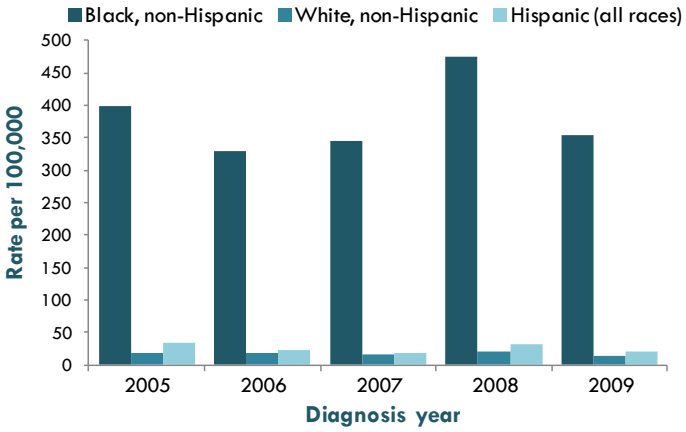


implementation of the national gonorrhea control program in the mid-1970s. The nationwide rate in 2009 was 99 cases per 100,000 population, a decrease of over 10% since 2008 (CDC, 2010b). Epidemiologic and biologic studies have demonstrated that gonococcal infections facilitate the transmission of HIV. The emergence of antibiotic resistant gonorrhea as existing treatments are continually losing their effectiveness is of great public health concern.

There was some variability in gonorrhea diagnoses in Virginia between 2005 and 2009. Diagnoses peaked in 2008 at 10,048 new cases and had a low of 6,366 in 2006 with an annual average of 7,783 during the five year period. In 2009 there were 7,809 diagnoses for a rate of 99.1 per 100,000, similar to the national rate. Virginia experienced a more marked decrease than the nation as a whole, a decline of 29% from 2008 to 2009.

Trends in gonorrhea diagnoses represent the most striking racial disparity in STD infections. Black individuals were 23 times more likely to be diagnosed with gonorrhea than their White counterparts. Similar to the chlamydia diagnosis trend, young adults ages 20-24 and adolescents ages 15-19 lead in new gonorrhea diagnoses with a rate of 486 and 427 per 100,000, respectively.

Gonorrhea Diagnoses by Race/Ethnicity in Virginia, 2005-2009



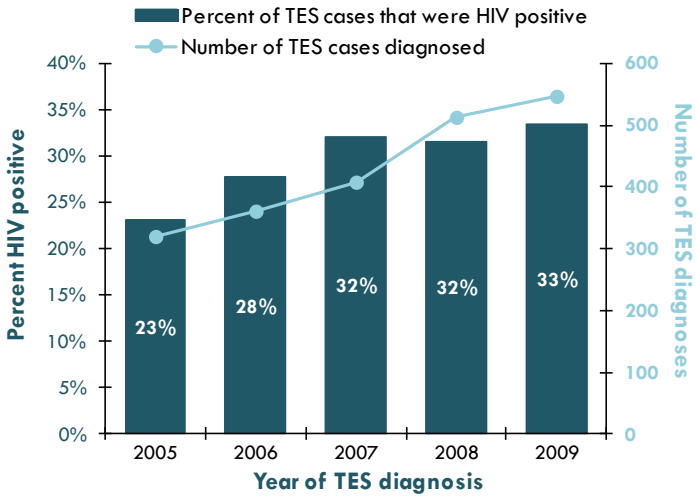
STD AND HIV COINFECTION

The heavy burden of coinfection with HIV disease and then a STD is indicative of continued high risk behavior. In Virginia, this trend is particularly evident among men who have sex with men.

Syphilis & HIV

In Virginia the epidemiology of early syphilis infection and HIV is closely linked. In recent years approximately one-third of syphilis cases diagnosed annually were previously diagnosed with HIV disease. Among those coinfected between 2005 and 2009, over 99.5% are male and among those males, over 90% reported a risk of MSM.

TES and HIV Coinfection in Virginia, 2005-2009



The rate of total early syphilis among persons living with HIV disease was 118 times greater than that among the general population (827 and 7 per 100,000, respectively).

1 in 3 TES diagnoses occur among persons living with HIV disease

1 in 121 persons living with HV disease are diagnosed with TES each year

Chlamydia & HIV

The rate of chlamydia among the general population is only slightly greater than that among persons living with HIV disease. Chlamydia is predominately transmitted among adolescents and young adults and does not share much of the same epidemiology as HIV in Virginia. Because chlamydia is more commonly diagnosed among women and HIV is more prevalent among men, it is not unexpected that coinfection rates trail the rate of chlamydia within the general population.

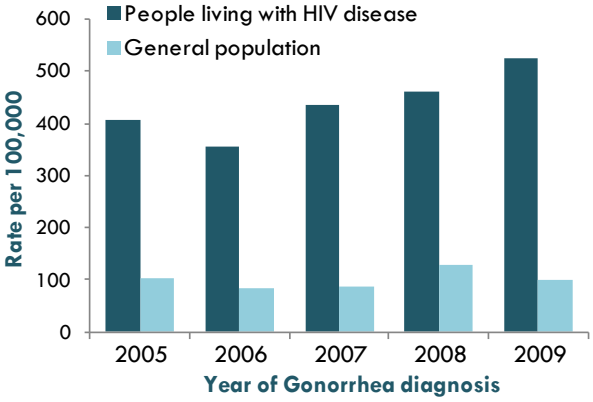
In 2009, there were 87 diagnoses of chlamydia among persons living with HIV disease. The rate of new chlamydia diagnoses among persons living with HIV was 391 per 100,000 as compared to 396 per 100,000 among the general population. About 65.5% of chlamydia diagnoses among persons living with HIV disease occurred among men and of the males 74% reported a transmission category of MSM.

Gonorrhea & HIV

While early syphilis has the most striking association with HIV, the epidemiology of gonorrhea is also closely linked with HIV. In 2009, there were 117 diagnoses of gonorrhea among persons living with HIV disease. Though gonorrhea morbidity was a quarter of chlamydia cases, cases among persons living with HIV disease were 34.5% greater for gonorrhea as compared to chlamydia.

The rate of new gonorrhea diagnoses among persons living with HIV was 526 per 100,000—far exceeding the rate among the general population of 99 per 100,000. Among those coinfected, 86% were men, and among those males 78% had a HIV disease transmission category of MSM.

Rate of Gonorrhea and Gonorrhea and HIV Coinfection in Virginia, 2005-2009



Persons living with HIV disease are 5 times more likely to be diagnosed with gonorrhea than the general population

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